Amendments to the Claims

1. (presently amended) A ~~telephone echo reduction~~ device ~~for reducing echo~~ ~~for an arrangement for transmitting audio signals, in particular uttered speech~~, having:

an echo reduction unit (4), ~~which is arranged~~ disposed between an input channel (1) for receiving an input audio signal (A1) coming from a remote ~~end~~ telephone, and an output channel (5) for outputting an output audio signal (A2), and providing for ~~suppressing an~~ the variable suppression of any echo signal contained in the output audio signal (A2) according to an echo suppression factor (s) at a control input,

a speech activity detection unit (7) for detecting any speech signal ~~contained~~ in the input audio signal (A1), wherein, said echo suppression factor (s) is set near maximum if a speech signal is detected, and,

~~a control unit (6) for setting an echo suppression factor (s) of the echo reduction unit (4) for echo suppression;~~

~~characterized in that the control unit (6) is so designed that the echo suppression factor (s) is reduced gradually and continuously from a high echo suppression value set while a speech signal is present in the input audio signal (A1) to a low echo suppression value if the speech activity detection unit (7) detects that the input audio signal (A1) does not contain any speech signal.~~

a control unit (6) connected to said input control of the echo reduction unit (4), and when the speech activity detection unit (7) indicates no speech signal is being detected, then providing for the echo suppression factor (s) to be gradually and smoothly exponentially decayed from near maximum to near minimum over a time profile;

wherein, any reverberation echoes that would otherwise occur are limited.

2. Canceled.

3. (Presently amended) ~~A device as claimed in claim 2, characterized in that reduction of~~ The device of Claim 1, wherein, the control unit (6) provides for the echo

suppression factor (s) ~~takes place in~~ <u>to be exponentially decayed in</u> accordance with the function

$$s[k] = \alpha \cdot s[k - 1] + (1 - \alpha) \cdot s_{low},$$

wherein s[k] is the echo suppression value at ~~the~~ time k, α is a factor representing the exponential reduction behavior and s_{low} is ~~the~~ <u>a</u> minimum echo suppression value.

4. (Presently amended) ~~A device as claimed in claim 3, characterized in that~~ <u>The device of Claim 3, wherein, the control unit (6) provides for</u> the minimum suppression value s_{low} ~~exhibits a value~~ <u>is</u> in the range ~~from~~ <u>of</u> 0.1 to 1, ~~preferably approximately 0.5,~~ and the factor α representing the exponential reduction ~~exhibits a value~~ <u>is</u> in the range ~~from~~ <u>of</u> 0.5 to 0.99 ~~, preferably in the range from 0.75 to 0.85~~.

5. (Presently amended) ~~A device as claimed in claim 1, characterized in that~~ <u>The device of Claim 1, wherein,</u> the control unit (6) ~~is designed~~ <u>provides</u> for time delay of the reduction of the echo suppression factor (s) from ~~the set high echo suppression value to the low echo suppression value by a dead time, in particular in the range from~~ 0.1 to 1 second ~~, preferably approximately 0.4 second~~.

6. (Presently amended) ~~A device as claimed in claim 1, characterized in that~~ <u>The device of Claim 1, further comprising:</u>

a second speech activity detection unit (427) ~~is provided~~ for detection of a speech signal ~~contained~~ in ~~the~~ <u>an</u> echo reduced audio signal (r) fed to the echo reduction unit (4) and coming from a near end ~~and in that the control unit (6) is so designed that the~~ <u>;</u>

<u>wherein, said</u> echo suppression factor (s) is set to ~~the high echo~~ <u>a near</u> <u>maximum</u> suppression value if the input audio signal ~~contains~~ <u>has</u> a speech signal and the echo reduced audio signal (r) does not ~~contain~~ <u>have</u> a speech signal ~~coming from the near end~~, <u>and;</u>

<u>wherein,</u> ~~and in that~~ the echo suppression factor (s) is set to a medium echo suppression value ~~lying between the high and low echo suppression values,~~ if the input audio signal (A1) ~~contains a speech signal~~ and the echo-reduced audio signal (r) ~~contains~~ <u>both has</u> a speech signal ~~coming from the near end~~.

7. (Presently amended) ~~A device as claimed in claim 1, characterized in that the echo reduction unit (4) comprises~~ The device of Claim 1, further comprising:

an adaptive FIR echo filter (40) for determining an estimated echo signal (e) ~~and in that the~~ in which coefficients of the adaptive FIR echo filter (40) are initialized at the start of ~~the~~ reception of ~~the~~ input audio signal (A1) to ~~a value unequal to~~ non-zero.

8. (Presently amended) ~~A device as claimed in claim 7, characterized in that the control unit (6) is so designed that~~ The device of Claim 7, wherein, the control unit (6) provides for the echo suppression factor (s) ~~is~~ to initially be set to a maximum ~~start echo suppression value~~ at the start of the reception of the input audio signal (A1) and ~~is~~ then reduced ~~continuously, especially linearly, while~~ if a speech signal ~~is~~ remains present in the input audio signal (A1) ~~to a stationary high echo suppression value~~.

9. (Presently amended) ~~A device as claimed in claim 8, characterized in that the time period for reducing the echo suppression factor (s) from the maximum start echo suppression value to, the static high echo suppression value is so set that it corresponds approximately to~~ The device of Claim 8, wherein, the control unit (6) provides for said reduction in initial echo suppression factor (s) over time to approximate the adaptation duration of the adaptive FIR echo filter (40).

10. Canceled.

11. (Presently amended) A method for reducing echo in the transmission of audio signals, in particular in uttered speech, having the steps of:

echo suppression for suppressing an echo signal (A1) of an input audio signal (A1) contained in an output audio signal (A2),

detection of a speech signal contained in the input audio signal (A1), and

setting of an echo suppression factor (s) for the suppression of echo,

characterized in that the echo-suppression factor (s) is reduced gradually and continuously from a high echo-suppression value set while a speech

signal is present in the input audio signal (A1) to a low echo-suppression value if it is detected that the input audio signal (A1) does not contain any speech signal.

12. Canceled.

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